AMENDMENT TO THE CLAIMS

Please cancel claims 1-15, amend claims 16, 23-24, 32, and add new claims 37-48 as indicated among the following complete set of pending claims:

Claims 1-15. (Canceled)

16. (Currently amended) A heat collector, comprising:

a heat sink including a[[mass]] plate of heat conductive material; [[and]]

a longitudinal recess in the[[mass]] plate of material; and

at least a gas phase line in the recess. [[;]]

17. (original) The heat collector of claim 16, further comprising:

a liquid phase line in the recess.

18. (original) A heat collector of claim 17, wherein the liquid phase line is disposed inside the gas phase line.

19. (original) A heat collector of claim 18, wherein a downstream end of the liquid phase line is fluidly connected to and forms a transition into the gas phase line.

20. (original) A heat collector of claim 19, wherein the transition is adjacent to an upstream end of the gas phase line.

21. (original) The heat collector of claim 17, wherein the liquid phase line is at least partially coextensive with the gas phase line.

22. (original) The heat collector of claim 17, wherein the liquid phase line extends along a substantial portion of the gas phase line.

23. (Currently amended) The heat collector of claim 16, wherein[[: the recess is a longitudinal recess; and]] a first end of the recess comprises an opening in the[[heat sink]] plate, the opening being an inlet and outlet opening.

24. (Currently amended) The heat collector of claim 23, wherein a second end of the recess comprises a closed end within the[[mass]] plate of heat conductive material.

25. (original) The heat collector of claim 24, further comprising a liquid phase line in the recess extending substantially to the closed end of the recess;

wherein the closed end of the recess forms a transition between the liquid phase line and the gas phase line.

26. (original) The heat collector of claim 16, further comprising a composite line including a plurality of lines including said gas phase line.

27. (original) The heat collector of claim 26, wherein the composite line is received in the recess.

28. (original) The heat collector of claim 26, further comprising:

a manifold for uniting a separate gas phase line and a separate liquid phase line into the composite line; and

the manifold having a combined gas phase and liquid phase connection fluidly connected to the composite line.

29. (original) The heat collector of claim 28, wherein the manifold has an upstream liquid phase input connection and a downstream gas phase output connection separate from the liquid phase inlet connection.

30. (original) A plurality of liquid phase and gas phase lines for a cooling system, comprising:

an internal gas phase line;

an external gas phase line connected to the internal gas phase line; and

an external liquid phase line;

wherein the external liquid phase line and the external gas phase line have substantially the same diameter.

31. (original) The plurality of liquid phase and gas phase lines in claim 30, further comprising an internal liquid phase line.

32. (Currently amended) The plurality of liquid phase and gas phase lines in claim[[2]] 31, wherein the internal liquid phase line is disposed inside and extends along a major portion of the internal gas phase line.

33. (original) The plurality of liquid phase and gas phase lines in claim 31, further comprising:

a manifold;

the manifold having: a liquid phase input connection fluidly connected to the external liquid phase line, a gas phase output connection fluidly connected to the external gas phase line; and

a combined gas phase and liquid phase connection fluidly connected to the internal gas phase line and the internal liquid phase line.

34. (original) The plurality of liquid phase and gas phase lines in claim 31, wherein the internal gas phase line and the internal liquid phase line form a composite internal line.

35. (original) The plurality of liquid phase and gas phase lines in claim 34, wherein the composite internal line has a first end fluidly connected to a manifold and a second end fluidly connecting the internal liquid phase line to the internal gas phase line and forming a transition therebetween.

36. (original) The plurality of liquid phase and gas phase lines of claim 35, wherein the internal liquid phase line is disposed inside the internal gas phase line.

37. (New) The heat collector of claim 16, wherein the longitudinal recess comprises a channel.

38. (New) The heat collector of claim 37, wherein the channel is serpentine and the gas phase line is serpentine and fits into the channel.

39. (New) The heat collector of claim 37, further comprising a thermally conductive material between at least a portion of the gas phase line and the plate to improve conductive heat transfer.

40. (New) The heat collector of claim 37, further comprising a liquid phase line in the channel, wherein the liquid phase line extends coincidently with the gas phase line.

41. (New) The heat collector of claim 40, wherein the liquid phase line is integral with the gas phase line.

42. (New) The heat collector of claim 16, wherein the gas phase line is at least partially formed by a portion of the plate.

43. (New) The heat collector of claim 42, wherein the liquid phase line is at least partially formed by a portion of the plate.

44. (New) The heat collector of claim 16, further comprising a heat sink cover plate mounted to the plate of heat conductive material with at least a portion of the gas phase line between the heat sink cover plate and the plate of heat conductive material.

45. (New) The heat collector of claim 16, further comprising through holes in the heat conductive material for receiving fasteners therethrough.

46. (New) The heat collector of claim 28, wherein the manifold is integral with the plate of heat conductive material.

47. (New) The heat collector of claim 28, wherein the manifold is added to the plate of heat conductive material.

48. (New) A heat collector, comprising:

a heat sink including a solid mass of heat conductive material;

a longitudinal recess forming a channel in the solid mass of heat conductive material;

a gas phase line in the channel; and

a liquid phase line in the channel.